

INTERNATIONAL SEARCH REPORT

International Application No
PC 2005/012837

A. CLASSIFICATION OF SUBJECT MATTER
C07D419/14 A61K31/4439 A61P25/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, PAJ, BEILSTEIN Data, WPI Data, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; FALYAKHOV, I. F. ET AL: "Investigation of thermal stability of high-melting thermostable explosives" XP002354793 retrieved from STN Database accession no. 1998:357778 RN 208659-95-4 abstract & PROCEEDINGS OF THE INTERNATIONAL PYROTECHNICS SEMINAR, 21ST, 187-201 CODEN: PPYSD7; ISSN: 0270-1898, 1995,</p> <p style="text-align: center;">----- -/-</p>	<p>1-5, 10, 16, 22-24, 33</p>

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

29 November 2005

Date of mailing of the international search report

22/12/2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; VON BEBENBURG, WALTER ET AL: "Substituted polyaminopyridines" XP002354794 retrieved from STN Database accession no. 1980:495098 RN 73895-35-9 abstract & CHEMIKER-ZEITUNG , 103(12), 387-99 CODEN: CMKZAT; ISSN: 0009-2894, 1979,</p>	<p>1-5,10, 11,16, 22-24, 27-29, 32,33</p>
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BERRY, JOHN F. ET AL: "Additional Steps toward Molecular Scale Wires: Further Study of Ni510/11+ Chains Embraced by Polypyridylamide Ligands" XP002354795 retrieved from STN Database accession no. 2003:326947 RN 544671-36-5 abstract & INORGANIC CHEMISTRY , 42(11), 3534-3539 CODEN: INOCAJ; ISSN: 0020-1669, 2003,</p>	<p>1-5,10, 12,16, 22-26,33</p>
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; ZHOU, XIN ET AL: "Two-photon absorption properties of star-shaped compounds based on 1,3,5-triazine and 1,3,5-trisubstituted benzene" XP002354796 retrieved from STN Database accession no. 2004:107925 RN 676529-45-9 abstract & THEOCHEM , 668(2-3), 229-234 CODEN: THEODJ; ISSN: 0166-1280, 2004,</p>	<p>1-5,10, 11,16, 23,24,33</p>
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; PENG, SHIE-MING ET AL: "One-dimensional metal string complexes" XP002354797 retrieved from STN Database accession no. 2000:119017 RN 201049-88-9, -87-8, 261779-56-0, -57-1, 187038-69-3 abstract</p>	<p>1-5, 10-12, 16,19, 20, 22-26,33</p>

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>& JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS , 209, 80-83 CODEN: JMMDC; ISSN: 0304-8853, 2000,</p> <p>-----</p> <p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; LEUNG, MAN-KIT ET AL: "Self-Complementarity of Oligo-2-aminopyridines: A New Class of Hydrogen-Bonded Ladders" XP002354798 retrieved from STN Database accession no. 2002:237720 RN 427900-22-9, -19-4, -21-8, -25-2, -24-1, -23-0 abstract</p> <p>& JOURNAL OF THE AMERICAN CHEMICAL SOCIETY , 124(16), 4287-4297 CODEN: JACSAT; ISSN: 0002-7863, 2002,</p>	<p>1-5, 10-12, 16,19, 22-24,33</p>
X	<p>PROUDFOOT, JOHN R. ET AL: "Novel Non-nucleoside Inhibitors of Human Immunodeficiency Virus Type 1 (HIV-1) Reverse Transcriptase. 4. 2-Substituted Dipyridodiazepinones as Potent Inhibitors of Both Wild-Type and Cysteine-181 HIV-1 Reverse Transcriptase Enzymes" JOURNAL OF MEDICINAL CHEMISTRY , 38(24), 4830-8 CODEN: JMCMAR; ISSN: 0022-2623, 1995, XP002031262 compounds 41,46-52,63</p>	<p>1-4, 6-11,16, 32-34</p>
X	<p>EP 0 767 172 A (BOEHRINGER INGELHEIM PHARMACEUTICALS INC) 9 April 1997 (1997-04-09) examples</p>	<p>1-4, 6-11,16, 32-34</p>
X	<p>WO 95/22545 A (BOEHRINGER INGELHEIM PHARMACEUTICALS, INC; HARGRAVE, KARL, D; KELLY, TE) 24 August 1995 (1995-08-24) examples</p>	<p>1-4, 6-11,16, 32-34</p>
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BRZEZINSKA, ELZBIETA: "The QSAR analysis of tricyclic non-nucleoside inhibitors of HIV-1 reverse transcriptase" XP002354799 retrieved from STN Database accession no. 2003:592134 RN 647840-59-3 abstract</p> <p style="text-align: center;">-/--</p>	<p>1-4, 6-11,16, 32,33</p>

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PC 2005/012837

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>& ACTA POLONIAE PHARMACEUTICA , 60(1), 3-13 CODEN: APPHAX; ISSN: 0001-6837, 2003,</p> <p>-----</p> <p>TSUZUKI, YASUNORI ET AL: "Synthesis and Structure-Activity Relationships of Novel 7-Substituted 1,4-Dihydro-4-oxo-1-(2-thiazolyl)-1,8-naph thyridine-3-carboxylic Acids as Antitumor Agents. Part 2" JOURNAL OF MEDICINAL CHEMISTRY , 47(8), 2097-2109 CODEN: JMCMAR; ISSN: 0022-2623, 2004, XP002352356 page 2100; compounds 44E,45E</p>	1-4, 6-11,16, 27-30,32
X	<p>EP 0 596 126 A (WAKUNAGA SEIYAKU KABUSHIKI KAISHA; FUJISAWA PHARMACEUTICAL CO., LTD) 11 May 1994 (1994-05-11) page 18; example 8 page 100; example 236</p>	1-4, 6-11,32
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; ABUSHAMLEH, AHMAD S. ET AL: "Metal complexes of 1,10-phenanthroline derivatives. XIV. Complexes of 1,10-phenanthroline-2-yl(pyridin-2-yl)amine " XP002354800 retrieved from STN Database accession no. 1984:184742 RN 89702-49-8 abstract & AUSTRALIAN JOURNAL OF CHEMISTRY , 37(2), 281-91 CODEN: AJCHAS; ISSN: 0004-9425, 1984,</p>	1-11,16, 25,26,33
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BELL, THOMAS W. ET AL: "Binding biomolecules with designed, hydrogen-bonding receptors" XP002354801 retrieved from STN Database accession no. 1999:349181 RN 238755-32-3 abstract & PURE AND APPLIED CHEMISTRY , 70(12), 2371-2377 CODEN: PACHAS; ISSN: 0033-4545, 1998,</p> <p>-----</p> <p style="text-align: center;">-/--</p>	1-9,33

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; OKORO, U. C.: "The first aza-analogs of dibenzotriphenodithiazine ring system" XP002354802 retrieved from STN Database accession no. 1991:122283 RN 132604-06-9, -05-8 abstract & INDIAN JOURNAL OF CHEMISTRY, SECTION B: ORGANIC CHEMISTRY INCLUDING MEDICINAL CHEMISTRY, 30B(1), 22-4 CODEN: IJSBDB; ISSN: 0376-4699, 1991,</p>	1-5
X	<p>DE 30 37 494 A1 (DAINIPPON INK AND CHEMICALS, INC.; DAINIPPON INK AND CHEMICALS, INC., TO) 9 April 1981 (1981-04-09) page 15; example 9</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>DE 23 21 511 B1 (DAINIPPON INK AND CHEMICALS, INC., TOKIO) 25 July 1974 (1974-07-25) example 7</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>GB 833 548 A (J. R. GEIGY A.-G) 27 April 1960 (1960-04-27) page 4; example 15</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>PATENT ABSTRACTS OF JAPAN vol. 006, no. 261 (C-141), 21 December 1982 (1982-12-21) -& JP 57 155242 A (DAINIPPON INK KAGAKU KOGYO KK), 25 September 1982 (1982-09-25) abstract; example 8</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>JP 49 128933 A (DAINIPPON INK KAGAKU KOGYO KK) 10 December 1974 (1974-12-10) page 181</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>PATENT ABSTRACTS OF JAPAN vol. 003, no. 142 (C-065), 24 November 1979 (1979-11-24) & JP 54 119531 A (NIPPON SODA CO LTD), 17 September 1979 (1979-09-17) abstract; examples 21,22</p>	1,4,5, 10,11, 16,19, 20,22-24
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BAGULEY, M. E. ET AL: "Heterocyclic imines and amines. VIII. Identification of "o-cyanothiobenzamide" as 1-imino-3-thioisoindoline, and its conversion with amines into macrocycles and intermediates" XP002354803 retrieved from STN Database accession no. 1957:56708 RN20435-84-1 abstract & JOURNAL OF THE CHEMICAL SOCIETY, ABSTRACTS 709-19 CODEN: JCSAAZ; ISSN: 0590-9791, 1957,</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; SEKIGUCHI, TATSUO ET AL: "Azomethine pigments. III. Synthesis of bisazomethine pigments from 4-nitrophthalimide and diamines" XP002354804 retrieved from STN Database accession no. 1972:114803 RN 36250-71-2 abstract & KOGYO KAGAKU ZASSHI , 74(12), 2510-15 CODEN: KGKZA7; ISSN: 0368-5462, 1971,</p>	1,4,5, 10,11, 16,19, 20,22-24
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BORODKIN, V. F. ET AL: "Synthesis of macrocyclic compounds containing dithiotetrahydroisoindole residues" XP002354805 retrieved from STN Database accession no. 1973:537113 RN 51005-98-2 abstract & IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENII, KHIMIYA I KHIMICHESKAYA TEKHNLOGIYA , 16(8), 1304-5 CODEN: IVUKAR; ISSN: 0579-2991, 1973,</p>	1,4,5, 10,11, 16,19, 20,22-24

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BORODKIN, V. F. ET AL: "Macroheterocycles containing hydroisoindole groups" XP002354806 retrieved from STN Database accession no. 1973:515546 RN 49841-93-2 abstract & TR. IVANOV. KHIM.-TEKHNOL. INST., NO. 14, 141-2 FROM: REF. ZH., KHIM. 1973, ABSTR. NO. 9ZH353, 1972,</p>	<p>1,4,5, 10,11, 16,19, 20,22-24</p>
X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; HANACK, MICHAEL ET AL: "Synthesis and characterization of substituted nickel hemiporphyrazines" XP002354807 retrieved from STN Database accession no. 1993:484617 RN 148964-78-7 abstract & CHEMISCHE BERICHTE, 126(5), 1201-4 CODEN: CHBEAM; ISSN: 0009-2940, 1993,</p>	<p>1,4,5, 10,11, 16,19, 20,22-24</p>
X	<p>DATABASE CAPLUS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; 1974, MIELICKI ET AL.: "Pigments from isoindolenine derivatives" XP002354808 retrieved from STN Database accession no. 1974:479375 RN 5249-70-9 abstract & PL 67 743 A (OSRODEK...) 1973</p>	<p>1,4,5, 10,11, 16,19, 20,22-24</p>
X	<p>EP 0 361 682 A (MINNESOTA MINING AND MANUFACTURING COMPANY) 4 April 1990 (1990-04-04) page 13; example 12</p>	<p>1,4,5, 10,12, 16,22-24</p>
X	<p>PATENT ABSTRACTS OF JAPAN vol. 2003, no. 02, 5 February 2003 (2003-02-05) & JP 2002 296744 A (FUJI PHOTO FILM CO LTD), 9 October 2002 (2002-10-09) abstract; examples 6,8-10</p>	<p>1,4,5, 10,16, 19,22-24</p>

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 06, 3 June 2003 (2003-06-03) & JP 2003 050447 A (FUJI PHOTO FILM CO LTD), 21 February 2003 (2003-02-21) abstract; examples V6-V10	1,4,5, 10,16, 19,22-24
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 03, 27 February 1998 (1998-02-27) & JP 09 286167 A (MITSUBISHI CHEM CORP), 4 November 1997 (1997-11-04) abstract; examples 7,8,12,18,19,23	1,4,5, 10,16, 19,22-24
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; KREHER, T. ET AL: "Dynamic NMR studies of phosphorylated diamine-coupled bis-1,3,5-triazines" XP002354809 retrieved from STN Database accession no. 2000:269285 RN 273212-25-2 abstract & PHOSPHORUS, SULFUR AND SILICON AND THE RELATED ELEMENTS , 141, 135-146 CODEN: PSSLEC; ISSN: 1042-6507, 1998,	1,4,5, 10,16, 22-24
X	DATABASE REGISTRY 'Online! RN: 332848-52-9 26 April 2002 (2002-04-26), XP002354810 retrieved from STN abstract	1-5,10, 11,16, 22-24,33
X	DATABASE REGISTRY 'Online! RN: 477859-69-1 31 December 2002 (2002-12-31), XP002354811 retrieved from STN abstract	1-5, 10-12, 16, 22-24,33
X	DATABASE REGISTRY 'Online! RN: 416871-01-7 16 May 2002 (2002-05-16), XP002354812 retrieved from STN abstract	1-5,10, 11,16, 22-24,33
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PC/US2005/012837

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Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; PATRICIU, O.-I. ET AL: "Unambiguous synthetic approach to dihydrodipyridopyrazines" XP002354813 retrieved from STN Database accession no. 2004:1043770 RN 863550-19-0 , -12-3 abstract & COFRROCA 2004, ACTES DU COLLOQUE FRANCO-ROUMAIN DE CHIMIE APPLIQUEE, 3RD, BACAU, ROMANIA, SEPT. 22-26, 2004 , 107-108. EDITOR(S): GAVRILA, LUCIAN; FINARU, ADRIANA; GRANDCLAUDON, PIERRE. PUBLISHER: UNIVERSITY OF BACAU, BACAU, ROM. CODEN: 69GFCG; ISBN, 2004,</p>	<p>1-4,10, 11,16, 22-24,33</p>
P,X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BOLM, CARSTEN ET AL: "Synthesis of chiral 2,2'-dipyridylamines and their use in the copper-catalyzed asymmetric allylic oxidation of cyclohexene" XP002354814 retrieved from STN Database accession no. 2004:465406 RN 726127-15-7 abstract & TETRAHEDRON LETTERS , 45(26), 5019-5021 CODEN: TELEAY; ISSN: 0040-4039, 2004,</p>	<p>1-6,10, 11,16</p>
P,X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; HASANOV, HASAN ET AL: "Synthesis of long-chained oligo-.alpha.-aminopyridines by tandem Pd-catalyzed cross-coupling aminations and their helical dinuclear complexes" XP002354815 retrieved from STN Database accession no. 2004:769032 RN 794512-18-8, -17-7, -16-6, -15-5, 794511-96-9, -95-8, -94-7, -93-6 abstract & TETRAHEDRON LETTERS , 45(41), 7765-7769 CODEN: TELEAY; ISSN: 0040-4039, 2004,</p> <p style="text-align: center;">-/--</p>	<p>1-5,10, 12,16, 22-26,33</p>

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P,X	<p>DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; BOLM, CARSTEN ET AL: "Synthesis of C2-symmetric and unsymmetrically substituted 2,2'-dipyridylamines and crystal structure of a chiral 2,2'-dipyridylamine copper(II) complex" XP002354816 retrieved from STN Database accession no. 2004:946360 RN 819084-10-1 abstract & JOURNAL OF ORGANOMETALLIC CHEMISTRY , 689(23), 3767-3777 CODEN: JORCAI; ISSN: 0022-328X, 2004,</p>	<p>1-4,6, 10,12, 19,25,26</p>
A	<p>EP 1 302 463 A (YAMANOUCHI PHARMACEUTICAL CO. LTD) 16 April 2003 (2003-04-16) claim 1</p>	<p>1-37</p>

Information on patent family members

PC17US2005/012837

Form PCT/ISA/210 (patent family annex) (January 2004)

Internal Application No
PC 17 US2005/012837

Form PCT/ISA/210 (patent family annex) (January 2004)

INTERNATIONAL SEARCH REPORT
Information on patent family members

Ind. Int. Application No
PCT/US2005/012837

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1302463	A	US 2003232860 A1	18-12-2003